



# Biological Analysis Soil

**Report prepared for:**

Roots to Fruits  
Mark Angelini  
8150 Knot Rd  
Clarkstin, MI 48348 USA

Report Sent: 8/8/2013  
Sample#: 01-117054 | Submission:01-023277  
Unique ID: RNAO  
Plant: Apple  
Invoice Number: 10270  
Sample Received: 8/1/2013

design@rootstofruits.biz

For interpretation of this report please contact:  
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(541) 257-2612  
  
*Consulting fees may apply*

Organism Biomass Data	Dry Weight	Active Bacteria (µg/g)	Total Bacteria (µg/g)	Active Fungi (µg/g)	Total Fungi (µg/g)	Hyphal Diameter (µm)	<b>Nematode detail (# per gram or # per mL)</b> Classified by type and identified to genus. (If section is blank, no nematodes identified.)			
<b>Results</b>	0.820	50.2	713	14.3	511	2.85	Bacterial Feeders	2.69		
<b>Comments</b>	In Good Range	In range	Above range	Below range	Below range		Acrobeles		0.17	
<b>Expected Range</b>	Low	30	300	150	1500		Butlerius		0.09	
	High	0.85	60	300	3000		Cephalobus		0.35	
							Mycorrhizal Colonization (%)			
		Protozoa (Numbers/g)			Total Nematodes #/g	ENDO		ECTO		
		Flagellates	Amoebae	Ciliates						
<b>Results</b>	<b>7054</b>	33992	563	<b>3.30</b>	Not Ordered	Not Ordered	Plectus		0.09	
<b>Comments</b>	Low	Good	High	Low			Prismatolaimus		0.35	
<b>Expected Range</b>	Low	20000	20000	10	40%	40%	Prodesmodora		0.17	
	High	200000	200000	20	80%	80%	Rhabditidae		0.87	
							Organism Biomass Ratios			
		Total Fungi to Tot.Bacteria	Active to Total Fungi	Active to Total Bacteria	Active Fungi to Act.Bacteria	Nitrogen Cycling Potential (lbs/ac)				
<b>Results</b>	<b>0.72</b>	<b>0.03</b>	<b>0.07</b>	<b>0.28</b>	100-150		Rhabdolaimus		0.09	
<b>Comments</b>	Low	Low	Low	Low			Wilsonema		0.09	
<b>Expected Range</b>	Low	5	0.1	0.1	5		Fungal Feeders	0.09		
	High	10	0.15	0.15	10		Eudorylaimus		0.09	
							Fungal/Root Feeders			
							Aphelenchus			
							Ditylenchus			
							Stem & Bulb nematode			
							Filenchus			
							Predatory			
							Clarkus			
							Root Feeders			
							Pratylenchus			
							Lesion nematode			

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Dry Weight: Within normal moisture levels.

Active Bacteria: Bacterial activity within normal levels.

Total Bacteria: Excellent bacterial biomass.

Active Fungi: Fungal activity low, foods may be required.

Total Fungi: Low fungal biomass, foods and biology may be required.

Hyphal Diameter: Good balance of fungi.

Protozoa: Lacking species diversity.

Total Nematodes: Low numbers, excellent diversity, just a few root feeders.

Mycorrhizal Col.: Endo: | Ecto:

TF/TB: Too bacterial for apple trees

AF/TF: Low fungal activity, foods may be required.

AB/TB: Low bacterial activity relative to total biomass

AF/AB: Bacterial dominated, becoming more bacterial.

Interpretation Comments:

Fairly good fungal diversity, hyphal diameter: 1.5 to 5.5 um. Actinobacteria Biomass = 4.68 ug/g